

SUPPLEMENTAL INFORMATION  
For Staples' Golf Course Assessment  
Dairy Creek Golf Course  
San Luis Obispo County, California



September 15, 2016

REVISED SEPTEMBER 20, 2016



## Course Profile:

**Course Name:** Dairy Creek Golf Course, Par 71

**Location:** San Luis Obispo, CA

**Superintendent:** Albert Nunes

**Assistant Superintendent:** David Wilkerson

**Golf Course Equipment Mechanic:** Scott Pagent

**Staff:** Matt Barnard, Kevin Qualey, Sean Gabriel

**Maintenance budget (annually):** \$1M

**Director of Golf:** Josh Heptig

**Golf course architect:** John Harbottle, 1997

### **Yardage/Rating/Slope:**

Black: 6,548/ 72.7/ 134

Blue: 6,103/ 71.3/ 132

White: 5,561/ 68.2/ 120

Gold: 4,965/ 70.7/ 128

**Rounds (annual):** 26,000

**Percentage of play walking:** 40%

**Pace of play average range:** 3:45 - 4:15

**Soil type(s):** Serpentine clay

**Average annual precipitation:** 19 inches (16 inches from Nov- Mar)

### **Monthly average temperature:**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>High</b>	64	64	65	69	72	75	77	80	79	76	70	64
<b>Low</b>	41	42	44	45	48	51	54	55	54	49	44	40

**Prevailing wind:** 6mph from NW (22% average wind probability)

**Total acreage of golf course site:** 89 acres

**Elevation:** Clubhouse Base: 346

High point & elevation: 17 tees, 447

Low point & elevation: 8 tees, 269

**Total Greens:** 3.5 acres

**Greens size avg.:** 7000 sq. ft

**Greens construction:** USGA

**Green turf type(s):** SR 1020/Poa annua

**Fairways:** 40 Acres

**Roughs:** 30 Acres

**Bunkers:**

total #- 25

**avg. size-** 2000 sq. ft.

**total size-** 1.25 acres

# of Greenside bunkers: 23

# of Fairway bunkers: 0

# of Practice bunkers: 2

**Practice facility:** 7 acre driving range, 2 chipping greens, 1 putting green

**Irrigation: Pump capacity (GPM), # heads** High Zone = 1200 GPM, Low Zone = 400 GPM; 1456 heads

**Water source:** CMC waste water

**Water storage:** 75 acre feet

**Annual water use average:** 257 ac.ft.

	Water Use (AF)	CMC Delivery (AF)
2010	211	193
2011	213	194
2012	258	187
2013	247	173
2014	170	99
2015	150	126

6 Year Average: 214.8 AF

**Potable water source:** 150,000 gallons for greens only. Also services the clubhouse, campground and botanical garden

**Annual utility spend per year:** \$53,000

**Local tree species:** Spanish Oak,

**Local wildlife species:**

**Birds:** Vaux's Swift, Long-Billed Curlew, Cooper's Hawk, Golden Eagle, Northern Harrier, Osprey, White-Tailed Kite, California Horned Lark, Tricolored Blackbird, Burrowing Owl

**Mammals:** Pallid Bat, Yuma Myotis, Monterey Dusky-footed Woodrat, American Badger,

**Reptiles:** Southwestern Pond Turtle, California Horned Lizard, Silvery Legless Lizard,

## Community Links Plausibility Assessment:

- ☐ Trail Connection: Possible, and likely. Showed interest
- ☐ Exercise Stations: Possible.
- ☐ Lookout Points: Very possible. Very good locations in center of property.
- ☐ Educational Points of Interest: Yes.
- ☐ Foot Golf: Possible.
- ☐ Concert Accessibility: Very possible, on range.
- ☐ Beginner Golf Practice Areas/ Programs: Present. Could be expanded, forward tees
- ☐ Specified Multi-Use Area Indoor: Limited in clubhouse, but possible.
- ☐ Specified Multi-Use Area Outdoor: Very possible.
- ☐ Additional Sporting Areas: Possible. Bocce, bags, horse shoes
- ☐ Water Recreation Availability: Not very likely
- ☐ Community Garden Space: Yes, expand in botanical garden

Other:

Zero Waste Facility – opened in 2011

Currently – 20 tent camp sites, 40 RV sites with water, power and sewer

Potential for at least 60 RV more sites, 10-40 upscale cabin sites

El Chorro Regional Park additional amenities:

- Camp ground
- (2) Ball fields
- Botanical garden with community/event space
- Dog park
- Tot lot/Play ground
- Walking trails, limited to camp ground area
- County access road (Dairy Creek Rd) double as possible walking trail
- Access to open space to the NE

## Water Use Summary

Table 1 noted below shows the actual water use numbers from the years 2010 to 2015, provided by the County:

Table 1

Year	Irrigated Acres	Water Use (AF)	AF/Ac
2010	89	211	2.37
2011	89	213	2.39
2012	89	258	2.90
2013	89	247	2.78
2014	36*	170	4.72
2015	36*	150	4.17
Average	71.3	208.17	2.92

\*estimated

Clarifications of the above use numbers:

- The average water use over a six-year period is less than the approved amount in the original EIR.
- In years 2012, 2013 the golf course began flushing the soils on the course including the putting green in order to remove unwanted buildup of salts and other present minerals, causing the water use to increase.
- In years 2014, 2015, the golf course began to reduce the water use by reducing the number of total acres irrigated, only focusing on a “seasonal” golf course. This has caused the needed amount of water per acre to increase past the average use factor of 2.4 AF/Ac.

## Water Use by Turf Area

Greens	3.5	8.4	2.4
Tees	4.0	9.6	2.4
Fairways	40.0	96.0	2.4
Roughs	30.0	72.0	2.4
Other	2.0	4.8	2.4
Total	79.5	190.8	

2016	16.2	52.164	3.22
In theory	33.3	100	3

### Current Acreage of Greens and Tees Irrigation

Hole	Tee	Green	Total
	1	0.31	0.31
	2	0.16	0.25
	3	0.17	0.45
	4	0.32	0.47
	5	0.2	0.48
	6	0.48	0.33
	7	0.31	0.64
	8	0.3	0.27
	9	0.11	0.57
	10	0.23	0.38
	11	0.21	0.62
	12	0.17	0.45
	13	0.24	0.53
	14	0.32	0.55
	15	0.22	0.53
	16	0.2	0.42
	17	0.18	0.53
	18	0.33	0.54
Range	1.54		1.54
Practice Green 1		0.56	0.56
Practice Green 2		0.24	0.24
Clubhouse Area	1.1		1.1
Total	7.1	9.12	16.22 Total Acres

### 5.3 WATER RESOURCES

#### 5.3.1 Existing Conditions

Water resources assessed herein include the surface and ground waters within the project area and in the Chorro Creek Valley. The project area water resources are limited to a several springs, intermittent flow in the drainages tributary to Dairy Creek, and to the Cuesta College storm drains. The Chorro Creek Valley water resources include surface water and ground water stored in the alluvial sediments. The Chorro Reservoir is the only significant in-stream surface water impoundment within the watershed. Imported water is brought into the valley and contributes to the water resources as a part of the treated wastewater discharged from the California Men's Colony (CMC) wastewater treatment plant. This section has been prepared by Cleath & Associates.

#### *Project Area Water Resources*

The project site is within the watersheds of three water courses within Chorro Creek watershed: Dairy Creek, the Cuesta College drainage, and Pennington Creek. The Cuesta College watershed portion of the project site is drained by an unnamed intermittently flowing drainage channel. This drainage channel empties into a small reservoir whose dam is upstream of Highway 1. This small reservoir goes dry during the summer. The water in the drainage channel and in the small reservoir is used for cattle watering.

The Dairy Creek watershed portion of the project site contains three minor tributaries feeding into Dairy Creek. The only Dairy Creek tributary in the project area that has flow most of the year is the northern tributary. This tributary carries spring flow (varying from less than one to several gallons per minute) from upstream of the project area to Dairy Creek. This spring was probably the source for the old dairy and ranch headquarters whose foundations still exist nearby. The flow in this tributary is currently used for watering cattle. There is also some riparian habitat which is associated with this tributary. The southern Dairy Creek tributary drains a landslide area in its upper reaches, which retains a small amount of water into early summer.

The portion of the project area draining to Pennington Creek has no drainage channels or tributaries; and runoff occurs as sheet flow. There are no ground water bearing geologic units underlying the project site.

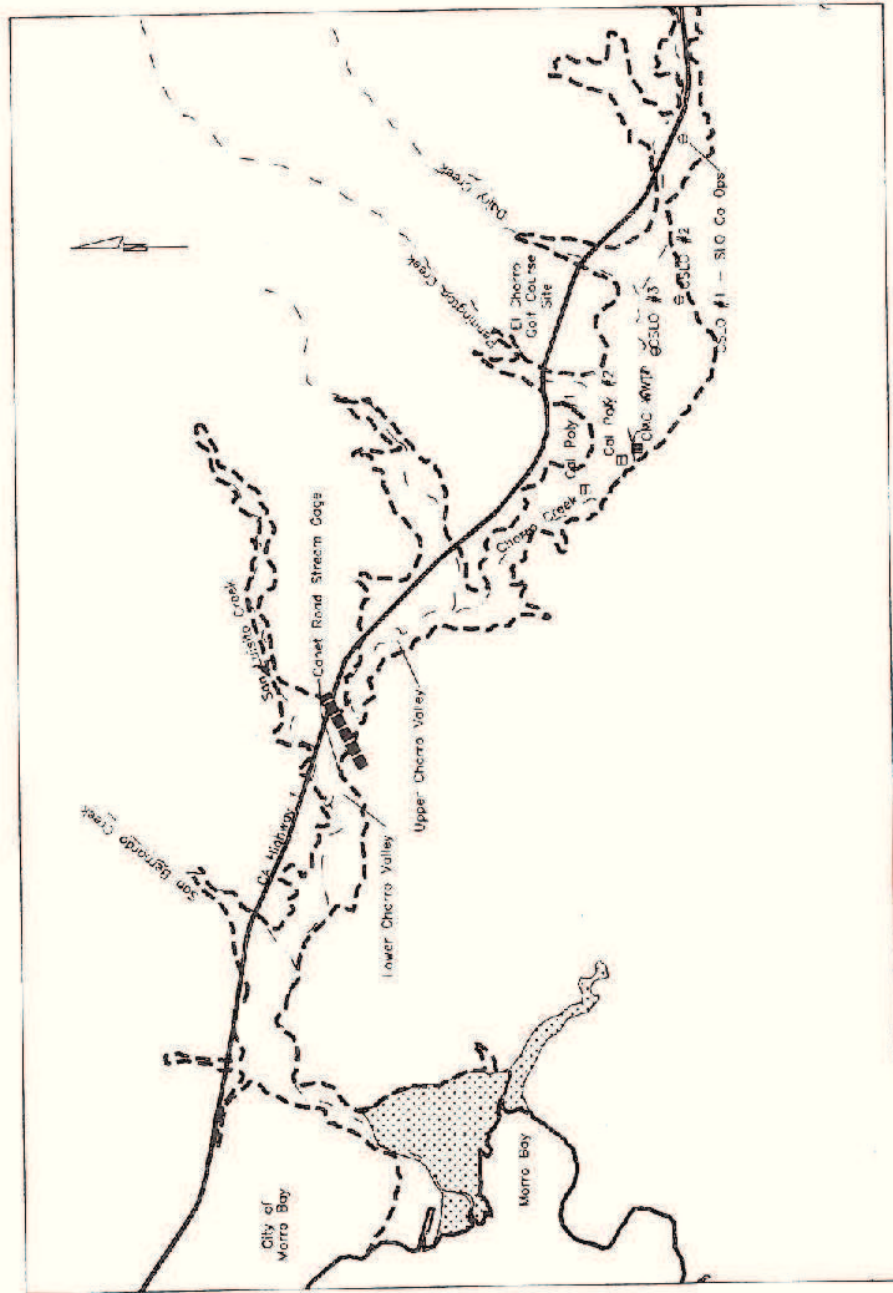
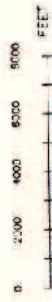
#### *Chorro Valley Water Resources*

For the purposes of this analysis, Chorro Valley is divided into two main reaches: the upper Chorro Valley area and the lower Chorro Valley area (**Figure WR-1**). These two segments of the valley join upstream of where San Luisito Creek Valley enters Chorro Valley.



# EXPLANATION

- Irrigation Wells
- Other Wells
- CMC WWTP
- Edge of Alluvial Basin



Chorro Valley  
Ground Water Basin

County of San Luis Obispo  
El Chorro Golf Course EIR

Ground Water Model

July 27, 1994  
CLEATH & ASSOCIATES

## CHORRO VALLEY GROUND WATER BASIN

Figure WR-1





Ground water exists within the water bearing alluvial deposits that underlie the flood plains of Chorro Creek and its main tributaries. There is significantly more ground water in storage in the lower Chorro Valley area than in the upper Chorro Valley area.

The upper Chorro Valley area is characterized by incised stream channels, thin alluvial deposits and institutional land/water uses. The water production facilities include 5 active wells (Camp San Luis Wells #1, 2, and 3 and the Cal Poly Chorro Ranch Wells #1 and 2) and the Chorro Reservoir.

Chorro Reservoir is the furthest upstream source of water supply on the Chorro Creek system. The California Department of Water Resources estimated the dependable yield of the 103 acre foot reservoir to be about 166 acre feet per year. During the severe drought conditions in 1990, however, the yield was 134 acre feet. CMC water releases from Chorro Reservoir, for riparian uses, amount to half of the inflow during summer.

County Operations (Camp San Luis) Well #1, located at Kansas Avenue and Highway 1, produces water from the Chorro Creek alluvium and currently pumps about 70 acre feet per year for use at the County Jail, County Operations and Maintenance facilities, and the El Chorro Regional Park, and County Schools office.

Camp San Luis Wells #2 and 3, located in the area of the Camp maintenance yard and California Conservation Corps offices respectively, were placed into service for use by CMC and Camp San Luis in 1991 after being unused for some time. Well #3 produced about 100 acre-feet each in 1992 and 1993 while Well #2 produced less than 20 acre-feet during the same periods.

Reclaimed wastewater from the California Men's Colony wastewater treatment plant is discharged into Chorro Creek downstream of Pennington Creek. The wastewater received by the treatment plant comes from CMC, Camp San Luis, the County of San Luis Obispo, and Cuesta College facilities. A portion of the water used at these facilities is imported from Whale Rock and the remainder of the water is from Chorro Reservoir and Camp San Luis Wells #1, 2, and 3. Currently, the CMC wastewater treatment plant discharges treated effluent to Chorro Creek at a minimum rate of 0.75 cubic feet per second (cfs) or the entire flow volume during times when discharge from the plant drops below 0.75 cfs. The monthly and annual CMC wastewater treatment plant discharges for the period from 1985 to the present are shown on a graph included in the project impacts section.

Cal Poly's Chorro Valley Ranch has diverted between 64 acre-feet per year (AFY) and 144 AFY of reclaimed effluent for irrigation of corn during the last several years. The ranch has two storage reservoirs totaling 84 acre-feet (AF) in capacity, which is fed by the effluent discharge. These releases are subject to the discharged effluent



meeting the quality requirements of the Regional Water Quality Control Board regulated National Pollutant Discharge Elimination System (NPDES) permit.

In addition to the reclaimed wastewater used on the crops at the Cal Poly Chorro Ranch, the ranch uses two wells. Well #2 is just downstream of the CMC wastewater treatment plant discharge to Chorro Creek and #1 is near the ranch maintenance buildings. Norm Jacobson, the Cal Poly utilities manager has provided estimates for pumpage from these wells. The combined production from these wells has been typically about 15 to 20 AFY: in fiscal year 1990-91, 40 acre feet was pumped and in fiscal year 1993-94, 11.5 acre feet was produced from these wells. This production typically occurs from May to September.

Nearly all of the flow reaching from the upper Chorro Valley to the lower Chorro Valley occurs in Chorro Creek. Only a small fraction (less than 50 acre feet per year) occurs as underflow within the alluvial sediments. The Canet Road stream gage provides information related to streamflow downstream from the boundary between the two parts of the Chorro Valley.

The lower Chorro Valley area has a stream channel which becomes shallower as it approaches the estuary with thicker alluvial deposits underlying the valley floor. Land and water resources are used for agricultural and municipal/domestic purposes in the lower Chorro Valley. Water production facilities include City of Morro Bay wells, agricultural and domestic wells, and surface water diversions on Chorro Creek and the two main tributaries; San Luisito and San Bernardo Creeks.

Existing conditions in the lower Chorro Valley were addressed in the City of Morro Bay Water Management Plan (1994). The City of Morro Bay has been producing between 800 and 1200 AFY from the lower Chorro Valley for the past 20 years. This water is, in large part, used outside of the watershed of Chorro Creek. Water production for agriculture has increased over the past 20 years as the irrigated acreage has increased and there has been a changeover to water intensive types of crops.

The outflow of water through the Twin Bridges area from the lower Chorro Valley area is not gauged but estimates of outflow prepared by The Morro Group/Tenera Environmental Services, are as follows: 19,990.27 AF in a wet year, 5,574.81 AF in a normal year, and 2,223.9 AF in a dry year. Correspondingly, they estimated that Chorro Creek was dry at this location for 30 days in a wet year, 120 days in a normal year, and 126 days in a dry year. Cleath & Associates estimates that the flow at this location during drought year conditions would be significantly less than a dry year with no streamflow during 300+ days during the year.

Sea water intrusion into the lower Chorro Creek Valley ground water has been documented for several years during the 1980s, but winter recharge has been adequate to fill the ground water basin in every year except 1990.



### 5.3.2 Thresholds of Significance

Implementation of the proposed golf course and facilities would result in significant impacts if it results in a decrease in available water for existing water users, or if it adversely affects the riparian habitat and fauna.

### 5.3.3 Project Impacts

#### *Potable Water*

The project proposes to use 3.4 AFY of potable water from the County Operations Well #1. When State Water is available, it will replace Well #1 as the source of potable water. It is projected that the Chorro Valley pipeline, which will carry the State Water Project, will be completed in 1996. This is roughly the same time as the proposed project completion date (October 1996). The resulting impact of the proposed project's potable water supply would be a small increase in wastewater going to the CMC wastewater treatment plant (about 2 AFY).

#### *Reclaimed Water*

The impacts of the use of reclaimed water by the project are related to the change in Chorro Creek flow.

In order to determine the change in Chorro Creek flow, it is necessary to (1) define the use of reclaimed water by the proposed golf course, (2) assess the change in CMC discharge to Chorro Creek with diversion changes and increased wastewater flows with time, (3) consider how the State Water Project influences streamflow upstream of the stream discharge from the CMC wastewater treatment plant, and (4) determine what the streamflow would be downstream of the CMC wastewater treatment plant.

#### Proposed Reclaimed Water Use

The proposed project will use 212.5 AFY of reclaimed water for irrigation of the golf course and landscaping (Table WR-1). The County currently has a Joint Powers Agreement with CMC to receive a minimum of 100 acre-feet per year for use at the park, apportioned in even monthly increments throughout the year. Mr. George Rosenberger of County General Services stated that the even monthly increments included in the Joint Powers Agreement were provided as an example and could be modified to provide reclaimed wastewater on demand up to the limit of the agreement. The proposed project has provisions whereby less area is irrigated during drought conditions, if necessary. During drought years, the water requirement could be reduced to the 100 AFY minimum discharge diversion.

While there is an agreement between CMC and the County for the reclaimed water diversion, there has not been a change made to the CMC wastewater treatment

**Table WR-1**

**Estimated Water Use  
El Chorro Park Golf Course**

MONTH	GOLF COURSE	
	Irrigation Effluent	Facilities State Water
January	0.0	0.1
February	0.0	0.2
March	7.1	0.2
April	17.7	0.2
May	28.4	0.3
June	33.3	0.4
July	35.4	0.5
August	35.4	0.5
September	28.4	0.4
October	21.2	0.3
November	5.6	0.2
December	0.0	0.1
TOTALS	212.5	3.4



permit allowing this diversion. This will be required prior to any diversion of reclaimed effluent, as will be a Regional Water Quality Control Board Order for Reclaimed Effluent Use per California Title 22 and Department of Health Services regulations.

#### Effect of Golf Course's Reclaimed Water Diversion on Discharge to Chorro Creek

In consideration of the reduced diversion to Cal Poly (see the following paragraph), the diversion of 212.5 AFY of reclaimed effluent to the proposed golf course would result in a decrease of 198.5 acre feet or less in discharge to Chorro Creek from the CMC wastewater treatment plant. The projected demand is compared to historically available effluent on **Figure WR-2**. There has been adequate effluent available for the proposed project over the past 8 years.

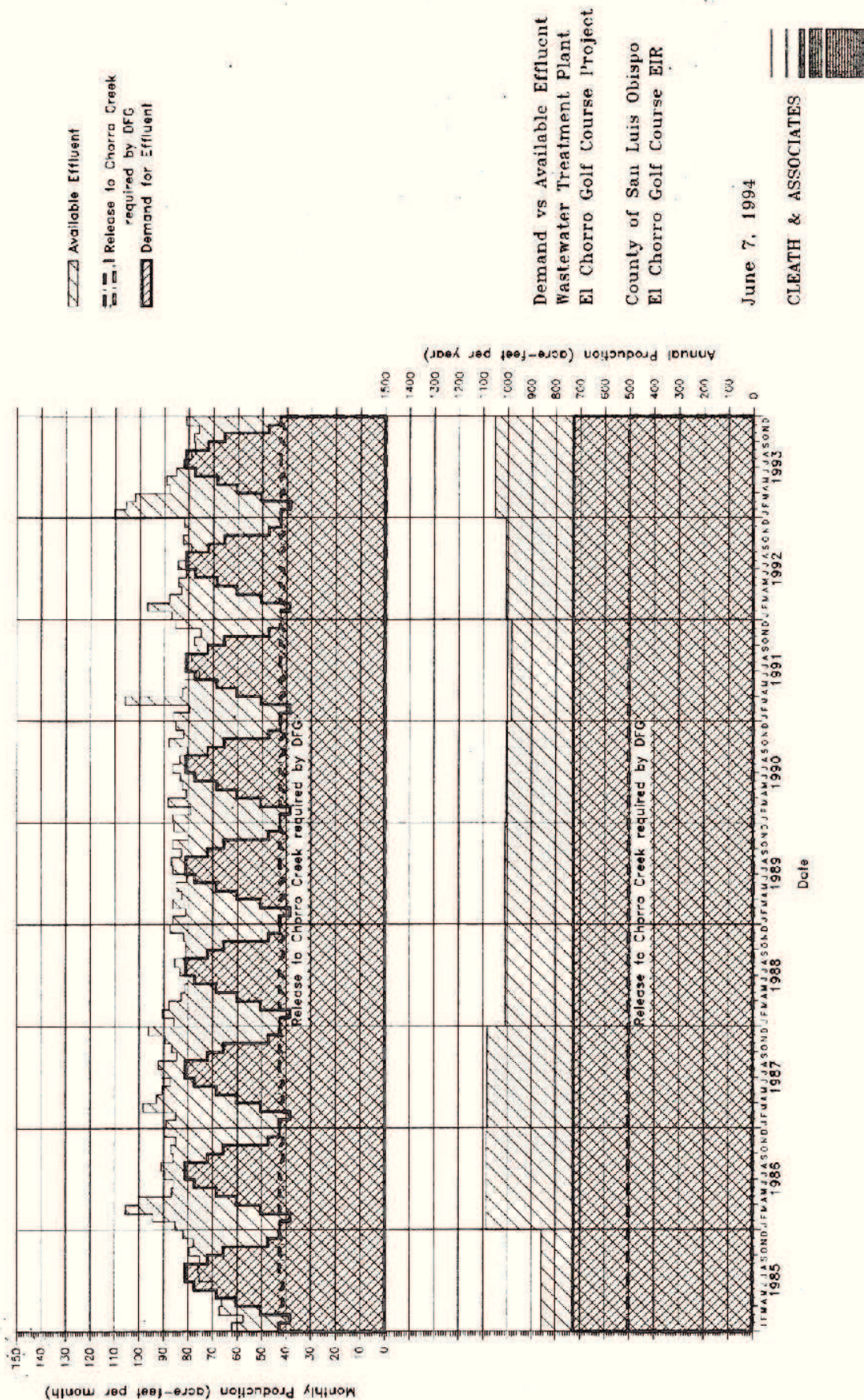
Bill Cook of CMC and Norm Jacobson of Cal Poly have a verbal arrangement allowing Cal Poly to divert 50 acre feet or less per year from the wastewater treatment plant discharge (which historically has varied from 64 to 144 AFY). This will be allowed as the effluent is available after the golf course diversion is supplied and is projected to be taken during the months of December, January and February, or when additional reclaimed water is available. The discharge to Chorro Creek over this period of maximum reclaimed water diversion will be maintained at, or above, the minimum recognized by the Department of Fish and Game and required as a condition of the Clean Water Grant Agreement.

As existing facilities (i.e., Cuesta College and the County facilities) increase their water use, the discharge from the wastewater treatment plant will increase. Cuesta College and County Engineering project that water demand for the college and the County Jail and Operations facilities will increase by 222 acre-feet between 1995 and 2010. Since these demands are to be for domestic uses, the resulting wastewater would be discharged to the CMC wastewater treatment plant.

#### Effect of SWP Imported Water Use on Chorro Creek Flow Upstream from CMC Wastewater Treatment Plant

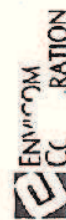
With or without the proposed golf course project, streamflow will increase upstream of the CMC wastewater treatment plant discharge point, starting at about the same time as the proposed project is to be constructed. This is because the SWP water will be used preferentially to the Chorro Reservoir and Camp San Luis Well #1 sources to serve CMC and the County facilities, due to cost considerations and water quality differences. During drought and severe drought years, SWP deliveries will be curtailed by 1/3 and 2/3, respectively. This was incorporated in our estimation of the projected production from 1989 (a drought year) and 1990 (a severe drought year) in **Figure WR-3**. The net differences in production from the water supply sources in the upper Chorro Valley area, if the SWP was used for the period from 1985 to 1993, are shown on **Figure WR-3**. The annual decrease in production, and corresponding increase in stream flow, would have ranged from about 90 acre-feet in 1990 to 450 acre-feet in 1993, if SWP water had been available.



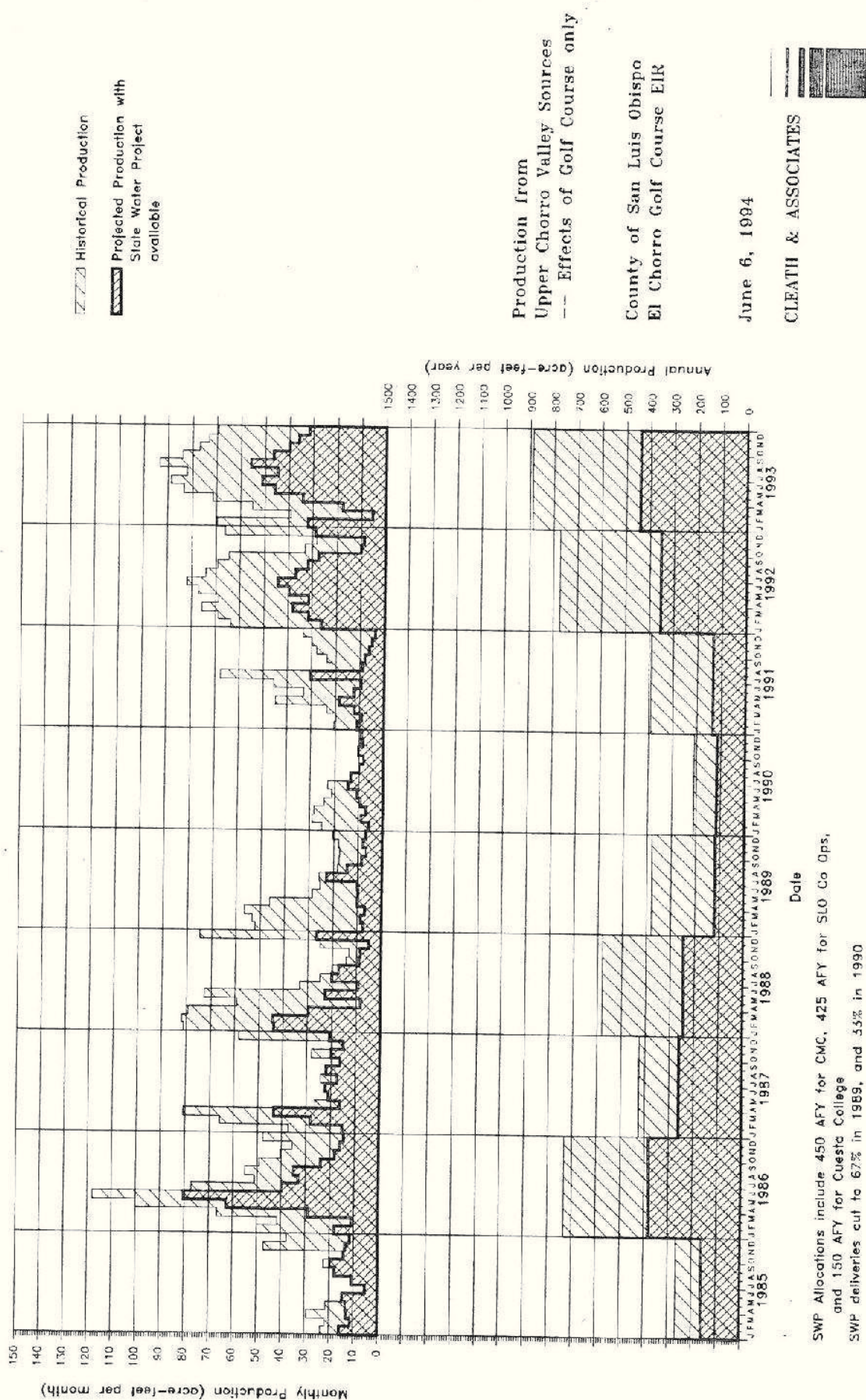


**Demand vs. Available Effluent Wastewater Treatment Plant  
El Chorro Golf Course Project**

**Figure WR-2**







SWP Allocations include 450 AFY for CMC, 425 AFY for SLO Co Ops, and 150 AFY for Cuesta College  
 SWP deliveries cut to 67% in 1989, and 35% in 1990

Production from Upper Chorro Valley Sources--  
 Effects of Golf Course Only

Figure WR-3

ENVICOM CORPORATION



#### Change in Streamflow Downstream of the Wastewater Treatment Plant Discharge

As a result of the decrease in wastewater discharge and the reduced extraction of upper Chorro Creek valley water resources, there will be an increase in streamflow in Chorro Creek during drought and average conditions. Under average conditions, the 198.5 AF reduction in wastewater treatment plant discharge should be completely offset by the reduction in water extractions upstream (such as 1988, when the reduction in water extractions upstream would have been about 320 AF). Under drought or severe drought conditions, the golf course project plans to reduce its discharge use to as low as 100 acre-feet, to avoid significant impacts to downstream users. Once again considering the reduction in Cal Poly diversion of at least 14 acre feet per year, there would be a small increase in annual Chorro Creek streamflow downstream of the treatment plant (86 AFY reduced discharge less 90 AFY of increased streamflow). This increased total annual streamflow downstream of the treatment plant would become larger in later years, since there would be increases in wastewater discharge resulting from increased projected usage at the college and County facilities. Seasonal Chorro Creek streamflow at Canet Road was simulated for the proposed project using a computerized flow simulation model and compared to historic recorded streamflow at the Canet Road gage. The simulated flow and the historic flow for the period from 1987 to 1991, overlaid on Figure WR-4, show that the simulated streamflow is greater than the recorded streamflow in every quarter of the years simulated.

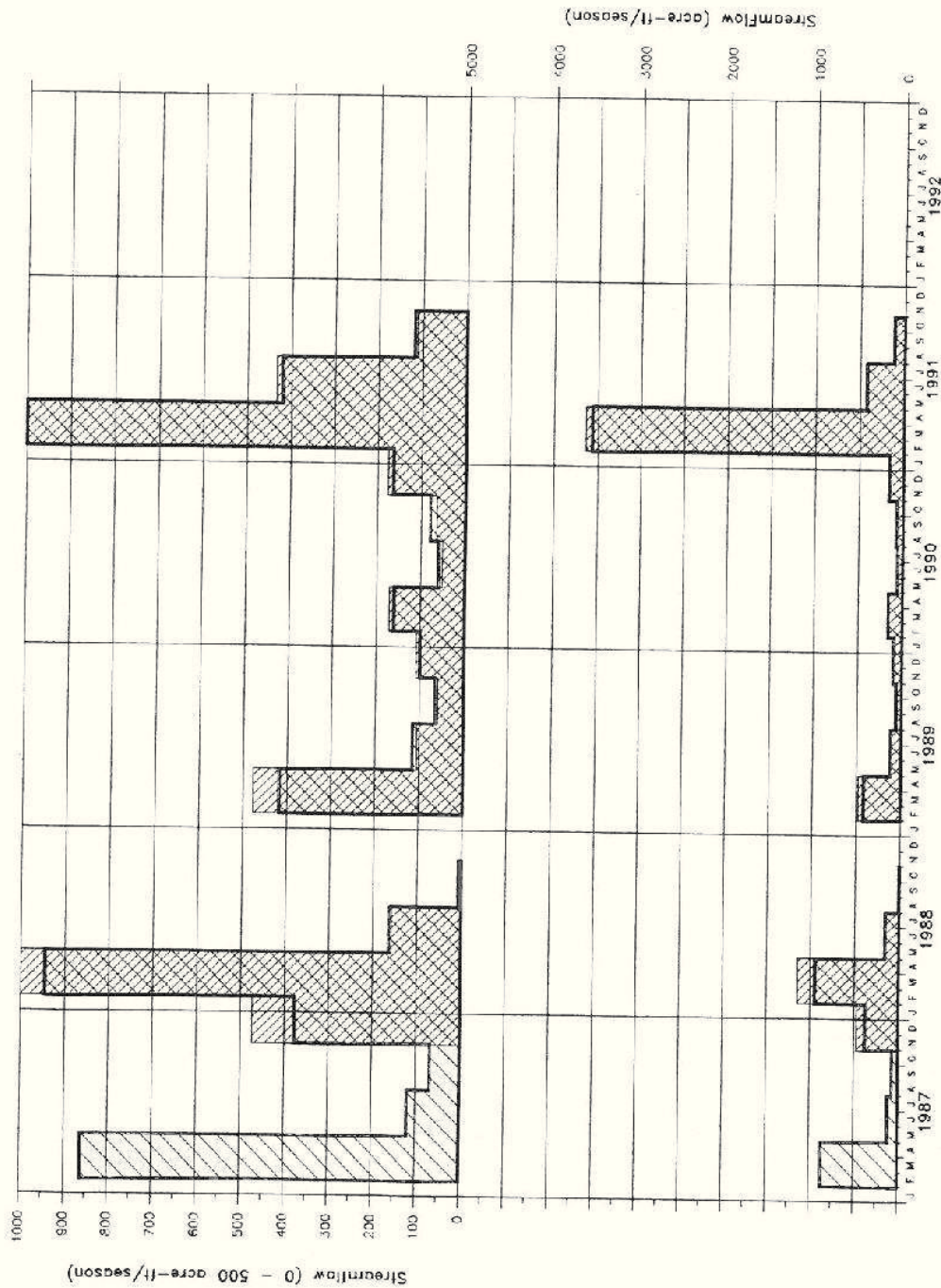
In conclusion, the use of reclaimed water for the proposed project, would have no significant adverse impact to existing levels of total annual and quarterly Chorro Creek flow, even during drought conditions, as long as the reduction in reclaimed water usage occurs during drought conditions. Under average conditions, with the full delivery of State Water Project water, there will be a beneficial impact on water resources, as streamflow will increase throughout the year. The proposed project will not have a significant adverse impact on ground water users downstream of the project. Appropriate permits will be required to allow the reclaimed water diversion to the proposed project.

#### **5.3.4 Cumulative Impacts**

The completion of the proposed project along with other reasonably foreseeable projects within the vicinity of the project would result in a change in ground water and surface water stored and flowing in Chorro Valley. The impacts of the individual projects and a cumulative impacts assessment are described below.

The related projects include an effluent reclamation project at CMC for toilet flushing; projects within the El Chorro Regional Park (the campground and park expansion and a botanical garden); the Chorro Flats project (reducing agricultural acreage and establishing a sediment trap near the mouth of Chorro Creek); urban development in the City of Morro Bay (the Cloisters, Creekside Center, and Cypress





Date

Actual data from SLO County Engineer's Office  
 Simulated data based on WWTTP diversion for El Chorro Golf Course  
 project only, with increased flow due to SWP availability

Simulated vs Actual Stream Flow  
 Chorro Creek at Canet Road Gage  
 Golf Course and SWP

County of San Luis Obispo  
 El Chorro Golf Course EIR

July 28, 1994

CLEATH & ASSOCIATES

Simulated vs. Actual Stream Flow Chorro Creek at  
 Canet Road Gage and SWP

Figure WR-4





Plaza Redevelopment projects); the City of Morro Bay Appropriative Groundwater Use Permit, Chorro Creek Basin; and the State Water Project pipeline.

The effluent reclamation project at CMC will reuse about 250 acre-feet of treated effluent from the wastewater treatment plant and result in a corresponding decrease in effluent discharge to Chorro Creek. The CMC effluent reclamation project would be third in line to tap the treated effluent stream, behind the downstream obligations and the proposed golf course.

The campground and park expansion would include 80 additional camp sites and improving the existing facilities at El Chorro Regional Park. This expansion would require additional potable and non-potable water. The potable water (18.7 AFY) would be provided from the State Water Project and a large portion of this water would flow to the wastewater treatment plant, assuming that the park would connect to the wastewater line from the golf course. The non-potable water for irrigation of landscape, amounting to about 18.8 AFY, would be obtained from the CMC wastewater treatment plant and would be supplied only if sufficient reclaimed effluent is available for meeting downstream obligations, the El Chorro Regional golf course, and the CMC reclaimed effluent project. The potable water deliveries should provide much of the wastewater flow to be used for the expansions' reclaimed water demand.

The Botanical Garden is in a similar position to the El Chorro Regional Park additional camp sites in that potable water would be obtained from the State Water Project and 25 AFY of reclaimed effluent would be used for irrigation purposes. Currently there is no formal agreement to provide reclaimed effluent to this project and the supply of reclaimed effluent would be subservient to downstream obligations, the proposed golf course project, the CMC reclaimed effluent project, and the campground and park expansion. There will be some domestic wastewater generated from visitors to the Botanical Garden which would be disposed to an onsite disposal system.

The Chorro Flats project, located in the lower Chorro Valley area, will reduce the number of acres in irrigated crops and therefore reduce water required. The Chorro Flats project would result in a decrease of about 50 acres of irrigated crops, with a reduced water consumption of about 50 AFY. This would in part be offset by an increase in riparian habitat, with associated water consumption.

The urban development projects in the City of Morro Bay will not result in additional water demand on the City wells in Chorro Valley, according to the City of Morro Bay Public Works Director. This is because the City requires toilet retrofits offsetting the water uses of potential projects and because the City has contracted for State Water to provide for additional future water demands. Wastewater from these projects would be disposed of to the City's wastewater treatment plant which is located outside of the Chorro Valley watershed.



The City of Morro Bay Appropriative Ground Water Use Permit, Chorro Creek Basin will not necessarily change the amount of water extracted from Chorro Basin. The State Water Resources Control Board could adopt the permit or it could reduce the amount of water produced by the City of Morro Bay. Until such time as the Division of Water Rights makes a public finding regarding this permit application, we must assume that the City will continue using water as it has for more than 20 years.

The Chorro Valley pipeline project and the appurtenant flow in the pipeline will increase the amount of water used in the Chorro Valley watershed and at the same time should reduce the demand on local water sources due to the likelihood that the purveyors contracting for this water would use the imported water preferentially. The pipeline project, which would include the construction and maintenance of the pipeline (disregarding the water transmitted by it) should have a minimal impact on water resources in Chorro Valley.

#### *Summary of Cumulative Impacts*

There are two impacts which will result from the cumulative projects: there will be inadequate reclaimed effluent for the proposed project and the related projects, and there will be a reduction in water resources within Chorro Valley.

#### Effluent Demand

The cumulative project scenario demand for reclaimed effluent exceeds the total available of reclaimed water for most years on record (by as much as 53 AFY in 1991) and, when viewed on a month to month demand, the over subscription is even more noticeable (Figure WR-5).

The amount of reclaimed water demand exceeding the amount of available treated effluent would need to be compensated for by either reducing the demand on the wastewater effluent or by augmenting the existing reclaimed water source with another reclaimed water source. As described earlier, future wastewater flows to the CMC treatment plant can be expected to increase about 80 acre feet by the year 2000. If the implementation of the related projects coincide with this availability, the available reclaimed water from the CMC wastewater treatment plant could accommodate all of the cumulative projects.

#### Water Resources Change

The use of the maximum available water from the CMC wastewater treatment plant and the change in the water production upstream will result in a reduction in total water resources in Chorro Valley.

The uses of Chorro Creek Reservoir and Camp San Luis Well #1 would be curtailed slightly more than in the project impact analysis due to the additional use of







reclaimed water for the CMC water conservation project, resulting in a natural increase in flow within the surface water and ground water of Chorro Valley (about 115 AF in a drought year and 660 AF in a year such as 1993) (Figure WR-6).

The overall cumulative water resources impact of the proposed project and the reasonably foreseeable projects is most significant during drought years. The water resources in Chorro Creek valley would decrease by about 190 AF for a year such as 1990 as a result of the cumulative projects (assuming the golf course diversion is reduced to 100 AF for that year).

The water resources reduction is primarily Chorro valley ground water in storage. As can be seen in the simulated vs. actual streamflow, there will be little change in the streamflow (Figure WR-7). The impacts on the lower Chorro Creek valley would be partially offset by a 50 acre-foot reduction in irrigation from the Chorro Flats project. The greatest impact would occur immediately because the inflow to the wastewater treatment plant is projected to increase in the future.

#### 5.3.5 Mitigation Measures

Mitigation measures shall be required if reclaimed water is to be provided to the proposed project and the related projects.

##### *Proposed Project*

[WR-1] The time at which the golf course's reclaimed water use would be reduced to the 100 AFY level shall correspond with the time at which the State Water Project deliveries are reduced due to drought conditions. Fluctuating State Water Project deliveries during non-drought periods shall be accommodated through a corresponding reduction in golf course irrigation.

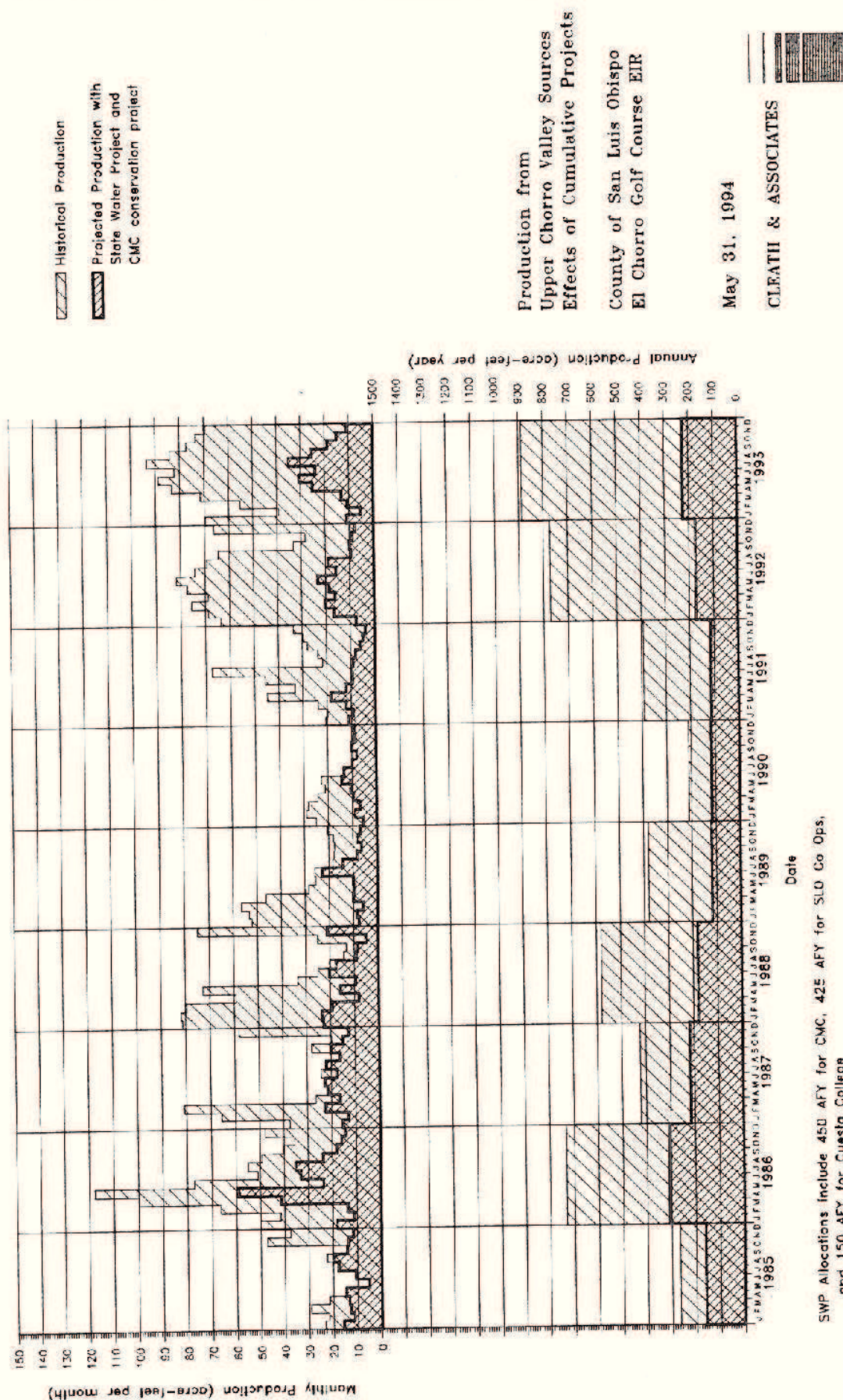
[WR-1A] The County shall consider developing the golf course and its related facilities in phases to correlate with delivery of State Water to the region.

##### *Related Projects*

As each related project is planned, the availability of reclaimed effluent and the impacts to Chorro Valley streamflow or ground water dependent concerns shall be assessed. Mitigation measures shall be taken to compensate for the over-subscription of available CMC wastewater treatment plant effluent and to offset decreases in streamflow.

[WR-2] The golf course shall maintain potable and non-potable water use records for use in future proposed Chorro Valley project assessments.

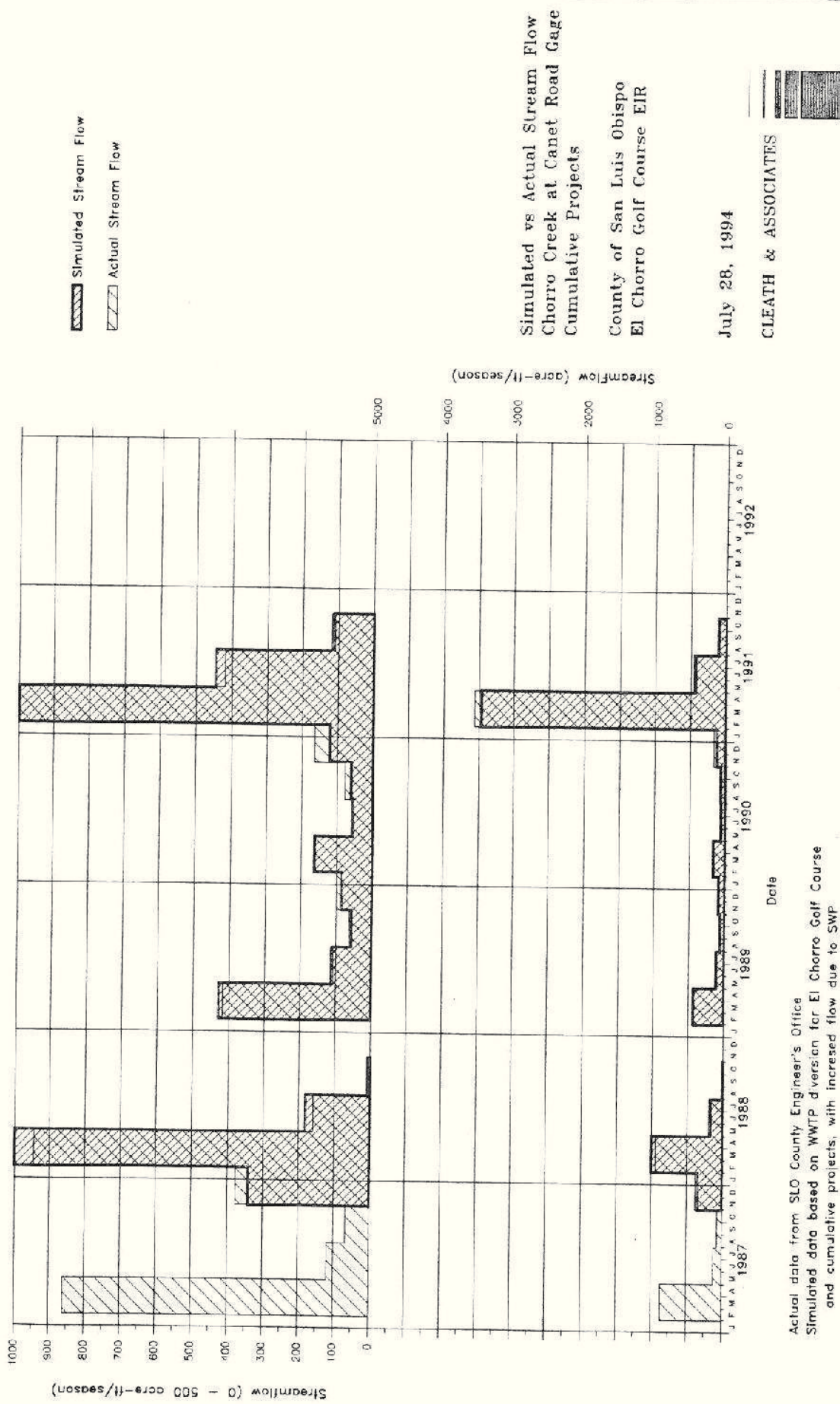




Production from Upper Chorro Valley Sources  
Effects of Cumulative Projects

Figure WR-6





**Simulated vs. Actual Stream Flow Chorro Creek at Canet Road Gage Cumulative Projects**

**Figure WR-7**

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Measures which could contribute to mitigation of the lack of available effluent and any reduced streamflow or ground water resources are described below.

- [WR-3] Reduce the amount of reclaimed water used by the proposed and related projects to the amount available. The total amount of treated effluent available for reclamation will increase as Cuesta College and County facilities increase their disposal to the wastewater treatment plant.
- [WR-4] Replace some of the reclaimed water used on the golf course or related projects with imported water such as State Project Water or Whale Rock water to the extent that the streamflow is maintained. Utilize a portion of the County's State Water Project allocation for non potable purposes, or trade a portion of the County's State Water Project allocation to CMC for a portion of the reclaimed water to be used by the CMC wastewater reclamation project.
- [WR-5] Use the Chorro Reservoir to modify streamflow variations by storing winter flows and recharging the creek during months when the streamflow is low.
- [WR-6] Recharge the stream with imported water/imported reclaimed wastewater during periods when flow is diminished.

#### 5.3.6 Residual Impacts

The residual impacts of the proposed project on the Chorro Valley water resources are not significant. Mitigation measures for cumulative impacts could offset the decrease in streamflow in the dry summer months resulting from the combined effects of the proposed project and related projects. Based on the fact that there are potential feasible mitigating measures, this is a Class II level of impact for both project and cumulative impacts.